UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,394	04/27/2006	Philip Marc Johnson	U02-0086296	1284

54494   7590   03/24/2008
MOORE AND VAN ALLEN PLLC FOR SEMC
P.O. BOX 13706
430 DAVIS DRIVE, SUITE 500
RESEARCH TRIANGLE PARK, NC 27709

EXAMINER
VO, HUYEN X

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
03/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/577,394	JOHNSON ET AL.
	Examiner	Art Unit	
	HUYEN X. VO	2626	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
>   Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>06 February 2008</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-12</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-12</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>27 April 2006</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☒ All   b) ☐ Some * c) ☐ None of:

         1. ☒ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)   Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments filed 2/6/2008 have been fully considered but they are not

persuasive. Willenegger disclose the step of prioritizing permissible format, that is

ordering the permissible format from the most likely format to least likely format.

Willenegger fails to teach that ordering the permissible format before a decoding error is

detected. However, Raith et al. suggested the step of ordering the permissible format

before a decoding error is dected.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Willenegger (US 7076005) in view of Raith et al. (WO 00/35137, from IDS).

4.   Regarding claims 1 and 7, Willenegger discloses a method of and receiver for

channel decoding speech frames in a receiver capable of multiple (M) codes modes,

said channel encoded speech frames comprised of an inband bit portion and a speech

portion, said method comprising:

        (a) decoding the inband bit portion of a received frame to obtain confidence

levels associated with each of the M codec modes (*col. 1, line 62-67 together with col.

5, lines 25-67*);

        (a1) ordering the confidence levels from highest to lowest representing a

most likely codec mode to a least likely codec mode, respectively (*col. 5, lines 1-67,

prioritizing permissible formats*);

        (b) choosing the most likely codec mode based on the highest confidence level to

channel decode the speech portion (*col. 5, lines 25-67*);

        (c) decoding the speech portion of the received frame using the chosen speech

codec mode (*col. 5, lines 25-67*);

        (d) performing a frame determination check to determine the quality of the

decoded speech frame (*col. 7, lines 1-9, inherently suggesting of some sorts of quality

check*); and

        (e) if the decoded speech frame is determined to be of poor quality, then

choosing the next most likely codec mode 736 corresponding to the next highest inband

bit decoding confidence level and repeating steps (c) through (e) (*col. 6, lines 43-52 and col. 7, lines 1-9*).

Willenegger fails to specifically disclose the steps of ordering the confidence levels before a decoding error is detected and decoding the inband bit portion of a received frame to obtain confidence levels associated with each of the M codec modes <u>before a decoding error has been detected</u>. However, Raith et al. teach the steps of ordering the confidence levels before a decoding error is detected (*page 12, lines 1-19, variable code is selected based on respective likelihood metrics; obviously, the most likely variable code is used first to potentially save processing time*) and decoding the inband bit portion of a received frame to obtain confidence levels associated with each of the M codec modes <u>before a decoding error has been detected</u> (*page 9, lines 6-20*).

Since Willenegger and Raith et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Willenegger by incorporating the teaching of Raith et al. in order to improve decoding efficiency of the system.

5.   Regarding claims 6 and 12, Willenegger discloses a method of and receiver for channel decoding speech frames in a receiver capable of multiple (M) codec modes, said channel encoded speech frames comprised of an inband bit portion and a speech portion, said method comprising:

calculating a plurality of inband decode metrics, one for each speech codec mode (*col. 5, lines 25-67*);

ordering the confidence levels from highest to lowest representing a
most likely codec mode to a least likely codec mode, respectively (*col. 5, lines 1-67,
prioritizing permissible formats*);

partially decoding speech data for each speech codec mode (*col. 6, lines 53-58*);

determining the most likely speech codec mode based upon the partially
decoded speech data and the calculated inband decode metric data (*col. 7, lines 1-9*);
and resuming decoding of the speech data using the most likely speech codec mode
(*col. 7, lines 1-9*).

Willenegger fails to specifically disclose the steps of ordering the confidence
levels before a decoding error is detected, and calculating a plurality of inband decode
metrics, one for each speech codec mode <u>before a decoding error has been detected</u>.
However, Raith et al. teach the steps of ordering the confidence levels before a
decoding error is detected (*page 12, lines 1-19, variable code is selected based on
respective likelihood metrics; obviously, the most likely variable code is used first to
potentially save processing time*), and calculating a plurality of inband decode metrics,
one for each speech codec mode <u>before a decoding error has been detected</u> (*page 9,
lines 6-20*).

Since Willenegger and Raith et al. are analogous art because they are from the
same field of endeavors, it would have been obvious to one of ordinary skill in the art at
the time of invention to modify Willenegger by incorporating the teaching of Raith et al.
in order to improve decoding efficiency of the system.

6.   Regarding claims 2, 4-5, 8, and 10-11, Willenegger further discloses that the

steps (c) through (e) are repeated for a maximum number of iterations (N), where N

$<$/=M (*col. 7, lines 1-19*), wherein the maximum number of iterations N is determined

prior to choosing the most likely codec mode to decode the speech portion based on the

highest confidence level (*col. 7, lines 1-19*), and wherein the maximum number of

iterations (N) is set to the number of codec modes that exceed a threshold confidence

level (*col. 7, lines 1-9*).

7.   Regarding claims 3 and 9, Willenegger further discloses that the steps (c)

through (e) are repeated so long as the confidence level for the inband bit decoding with

respect to the current codec mode is above a threshold confidence level (*col. 7, lines

27-31*).

Conclusion

        Any inquiry concerning this communication or earlier communications from the

examiner should be directed to HUYEN X. VO whose telephone number is (571)272-

7631. The examiner can normally be reached on M-F, 9-5:30.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Patrick Edouard can be reached on 571-272-7603. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Huyen X Vo/   3/16/2008
Primary Examiner, Art Unit 2626

***